

# DHRUMAN D. GORADIA

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## Professional Summary

Accomplished Bioinformatics Scientist with expertise in Neuroscience Data Analytics, focusing on machine learning, deep learning and neuroimaging. Demonstrated success in creating predictive models and efficient data processing pipelines. Skilled in team leadership and effective communication of complex findings, leveraging Python and SQL to enhance research results.

## Technical Skills

- AI Tools: Scikit-learn, PyCaret, PyTorch, NLTK, Tensorflow, MLFlow, Flask, Streamlit.
- Neuroimaging tools: FSL, FreeSurfer, ANTs, AFNI, SPM, CAT12, Workbench, HCP, and Brain Connectivity Toolbox.
- Statistics: SPSS, JMP, Python, and R.
- Programming: Python (base, numpy, pandas, scipy, nibabel, nilearn, matplotlib), R, tsh, bash.
- Operating Systems: Linux, Mac OSX, Windows.
- Database Management: SQL, MS Access.
- Cloud Computing: AWS, Azure.
- Other: Docker, Git, BIDS, DICOM, NIFTI, NRRD, SCRUM.

## Experience

04/2023 - Current  
Banner Health  
Phoenix, AZ

### Bioinformatics Scientist

- Led data acquisition, processing, and analysis of MRI data for diverse projects.
- Developed statistical and machine learning approaches for biomarker identification.
- Developed predictive models using machine learning algorithms for brain age prediction.
- Executed imaging data analysis for clinical datasets using innovative techniques.
- Created analysis pipelines for multimodal neuroimaging data to enhance research outcomes.
- Developed models for data harmonization across multisite studies using Convolution Neural Networks implemented in PyTorch.
- Created visualizations to communicate data findings effectively to stakeholders.
- Supervised interns and volunteers, ensuring quality control in research tasks.
- Prepared manuscripts and grant proposals to secure funding and disseminate findings.
- Performed exploratory analysis on large datasets using SQL and Python libraries such as Pandas, NumPy, Scikit-Learn, and Matplotlib.

08/2020 - 03/2023  
PrimeNeuro, Inc.  
Durham, North Carolina

### Director of MRI Research

- Directed MRI data processing and analysis operations for infants and toddlers.
- Led strategic initiatives to enhance organizational effectiveness and operational efficiency.
- Directed cross-functional teams to implement innovative neuroimaging solutions.
- Led development of software for early Autism diagnosis through biomarker extraction and modeling.
- Engineered pipelines for structural and functional MRI data processing.
- Deployed large-scale data processing pipelines using Docker and AWS cloud services.
- Maintained a reusable codebase in Python, Bash, and Matlab via Git and Bitbucket.
- Validated and evaluated image processing systems to ensure accuracy.
- Documented standard operating protocols for consistent practices.

- Provided evidence-based insights to data science team for enhanced decision-making.
  - Facilitated workshops to drive employee engagement and team development.
  - Recruited, trained, supervised, evaluated and mentored staff members.
  - Collaborated with executive leadership to define company vision and strategic goals.
- 10/2015 - 08/2020  
Banner Health  
Phoenix, AZ
- Bioinformatics Scientist**
- Led acquisition, processing, and analysis of neuroimaging data for MRI studies.
  - Implemented machine learning algorithms in collaboration with university partners.
  - Directed data analysis for a large clinical trial, ensuring rigorous methodology.
  - Developed novel pipelines for multimodal MRI and PET data processing.
  - Maintained codebase for efficient data processing and analysis operations.
  - Assisted in developing MRI acquisition protocols for internal and external investigators.
  - Prepared manuscripts and grant proposals to secure funding.
  - Documented standard operating procedures to enhance reproducibility.
- 01/2009 - 08/2015  
Wayne State  
University  
Detroit, MI
- Graduate Research Assistant**
- Conducted analysis of multimodal MRI data to support research objectives.
  - Developed new neuroimaging protocols enhancing data collection methods.
  - Managed servers and computer hardware to ensure optimal performance.
  - Maintained and updated codebase for efficient data processing and analysis.
  - Prepared manuscripts for publication, ensuring adherence to academic standards.
  - Trained and supervised students and volunteers in neuroimaging techniques.
  - Assisted collaborators with data processing and analysis tasks, promoting teamwork.
- 11/2005 - 12/2008  
University of  
Pittsburgh Medical  
Center  
Pittsburgh, PA
- Sr. Research Assistant**
- Conducted analysis of multimodal MRI data for multiple research projects.
  - Prepared manuscripts for peer-reviewed publications to disseminate findings.
  - Developed innovative neuroimaging protocols to enhance research methodologies.
  - Managed servers and computers to ensure optimal lab infrastructure.
  - Executed database management and image archiving for efficient data retrieval.
  - Wrote scripts in Shell and Matlab to automate data processing tasks.
  - Supervised students and volunteers in data processing and analysis activities.
- 05/2003 - 06/2005  
Wright State  
University  
Dayton, OH
- Graduate Research Assistant**
- Conducted literature review to support research findings and methodologies.
  - Processed and analyzed CT and X-ray data for comprehensive evaluation.
  - Prepared manuscripts and abstracts for publication in peer-reviewed journals.
  - Served as grader for undergraduate statistics course, ensuring academic integrity.

## Education

- 08/2015  
Detroit, MI
- Ph.D.** in Translational Neuroscience Program  
Wayne State University School of Medicine  
Dissertation: "Evidence of Distinctive Structural Alterations that Differentiate ADHD Boys With and Without a Comorbid Reading Disability."
- 06/2005  
Dayton, OH
- M.S.** in Biomedical Engineering  
Wright State University  
Thesis: "Repositioning of the Region of Interest in the Radius of the Growing Child in Follow-up Measurements by pQCT"

08/2001  
Mumbai, India

**B.E.** in Instrumentation Engineering  
Mumbai University

- Major: Process Automation and Instrumentation
- Minor: Biomedical Engineering

## Websites & Social Links

- <https://scholar.google.com/citations?hl=en&user=wsEyLhsAAAAJ>